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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,219	10/20/2003	Craig E. Cox	21955	2336

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EXAMINER	
DUONG, THANH P	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/690,219	COX ET AL.	
	Examiner	Art Unit	
	Tom P. Duong	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28 and 47-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicants' remarks and amendments filed on February 13, 2006 have been carefully considered. Claims 1, 17, and 47 have been amended. Claims 1-60 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 7-8, and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sellakumar (6,960,329). Note, the system is being examined as an apparatus. Sellakumar discloses a circulating fluidized bed combustor (12) comprising a wet scrubber (48) connected to the CFB, said wet scrubber (12) being a flue gas desulphurization unit (Col. 7, lines 45-55); particulate collection system (Col. 6, lines 18-20); and reducing emission of NOx; mercury removal device (via injection 36).

2. Claims 47, 51, 52, and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Wietzke et al. (6,395,237). Note, the system is being examined as an apparatus. Wietzke et al. '237 discloses a system for treating a flue gas from a CFB (Abstract) comprising: a particulate collection apparatus (190); a first dry scrubber of a dry sorbent injector (50) and a second dry scrubber (220) to remove SOx and NOx (Col. 1, lines 15-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 2-6, 12-13, and 17-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sellakumar '329. Note, the system is being examined as an apparatus. Regarding claims 17 and 23-28, Sellakumar discloses a circulating fluidized bed combustor [(12), Col. 7, lines 34-37) comprising a wet scrubber (48) connected to the CFB, said wet scrubber (12) being a flue gas desulphurization unit (Col. 7, lines 45-55); particulate collection system (Col. 6, lines 18-20); and reducing emission of NOx; mercury removal device (via injection 36). Sellakumar does not expressly disclose a second wet scrubber to further treat the flue gas stream. It would have been obvious in view of Sellakumar to one having ordinary skill in the art to provide additional wet

scrubber(s) downstream of the CFB to further enhance the removal of particulates and/or SOx. Note, the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. See *In re Harza*. MPEP 2144.04. Regarding claims 2-6 and 18-21, Sellakumar discloses a wet scrubber but is silent with respect to the type of wet scrubber used. In view of Sellakumar, it would have been an obvious design choice to one having ordinary skill in the art to select any commercially available wet scrubber(s) including the claimed wet scrubbers in order to affectively removing the SOx and other impurities from the flue gas stream. Furthermore, Applicants have not disclosed criticality and/or advantages of using a particular wet scrubber system and it appears in view of the prior art that the selection of any commercially available wet scrubbers is an obvious matter of design choice in view of unexpected results. Regarding claims 12-13, and 22, Sellakumar '329 discloses the apparatus with the features of the claimed invention and therefore, the apparatus of Sellakumar '329 is capable of removing the SOx emissions by 95-100% or at most thru routine optimization.

4. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sellakumar '329 in view of Wietzke et al. '237. Sell Kumar does not disclose a dry scrubber system connected with the CFB. Wietzke '237 teaches a dry sorbent injector (50) to treat the flue gas stream. Thus, it would have been obvious in view of Wietzke to one having ordinary skill in the art to modify the system of Sellakumar with a dry sorbent injector as taught by Wietzke in order to reduce the emission. With respect to

the types of dry scrubber(s), it would have been an obvious design choice to one having ordinary skill in the art to select any commercially available dry scrubber(s) including the claimed dry scrubbers in order to affectively removing the SOx and other impurities from the flue gas stream. Furthermore, Applicants have not disclosed criticality and/or advantages of using a particular dry scrubber system and it appears in view of the prior art that the selection of any commercially available dry scrubbers is an obvious matter of design choice in view of unexpected results.

5. Claims 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wietzke et al. '237. Regarding claims 48 and 49, Wietzke et al. discloses the first dry scrubber system (50) of a dry sorbent injector but does not expressly disclose the type of dry scrubber for the second dry scrubber system. It would have been an obvious design choice to one having ordinary skill in the art to select any commercially available dry scrubber(s) including the claimed dry scrubber system in order to affectively removing SOx and other impurities from the flue gas stream. Furthermore, Applicants have not disclosed criticality and/or advantages of using a particular dry scrubber system and it appears in view of the prior art that the selection of any commercially available dry scrubbers is an obvious matter of design choice in view of unexpected results. Wietzke et al. '237 discloses the apparatus with the features of the claimed invention and therefore, the apparatus of Sellakumar '329 is capable of removing the SOx emissions by 95-100% or at most thru routine optimization.

6. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wietzke et al. '237 in view of Sellakumar '329. Wietzke '237 does not expressly disclose a mercury removal device connected to the CFB. Sellakumar '329 teaches chloride-containing salt injected by means 36 (Col. 7, lines 1-9) to remove mercury (Col. 5, lines 23-30). Thus, it would have been obvious in view of Sellakumar '329 to one having ordinary skill in the art to modify the flue gas treatment of Wietzke to include a mercury removal device as taught by Sellakumar '329 in order to remove the mercury from the flue gas stream.

Response to Arguments

Applicant's arguments with respect to claims 1-28 and 47-54 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong
May 1, 2006

TD

Glenn Caldarola
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